**Hardy Weinberg Equilibrium Lab: Class Data**

Ms. Ottolini, AP Biology

**Case #1: Class Data**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Surviving Genotypes** | | |  | **Surviving Alleles** | | |
| **Generation** | **AA** | **Aa** | **aa** | **Total Individuals** | **A** | **a** | **Total Alleles** |
| Parental | **0** | **29** | **0** | **29** | **29** | **29** | **58** |
| F1 | **9** | **17** | **3** | **29** | **35** | **23** | **58** |
| F2 | **7** | **17** | **5** | **29** | **31** | **27** | **58** |
| F3 | **10** | **16** | **3** | **29** | **36** | **22** | **58** |
| F4 | **12** | **14** | **3** | **29** | **38** | **20** | **58** |
| F5 | **14** | **9** | **6** | **29** | **37** | **21** | **58** |

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| --- | --- | --- | --- | --- | --- |
|  | **Frequency of Genotypes** | | | **Frequency of Alleles** | |
| **Generation** | **p2 (AA)** | **2pq (Aa)** | **q2 (aa)** | **p (A)** | **q (a)** |
| **F5 (HW Theoretical)** | **(0.5)2 = 0.25** | **2(0.5)(0.5) = 0.5** | **(0.5)2 = 0.25** | **0.5** | **0.5** |
| **F5 (Actual)** | **14/29 = 0.48** | **9/29 = 0.31** | **6/29 = 0.21** | **37/58 = 0.64** | **21/58 = 0.36** |

**Case #2: Class Data**

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Surviving Genotypes** | | |  | **Surviving Alleles** | | |
| **Generation** | **AA** | **Aa** | **aa** | **Total Individuals** | **A** | **a** | **Total Alleles** |
| Parental | **0** | **30** | **0** | **30** | **30** | **30** | **60** |
| F1 | **15** | **15** | **0** | **30** | **45** | **15** | **60** |
| F2 | **16** | **14** | **0** | **30** | **46** | **14** | **60** |
| F3 | **15** | **15** | **0** | **30** | **45** | **15** | **60** |
| F4 | **18** | **12** | **0** | **30** | **48** | **12** | **60** |
| F5 | **20** | **10** | **0** | **30** | **50** | **10** | **60** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Frequency of Genotypes** | | | **Frequency of Alleles** | |
| **Generation** | **p2 (AA)** | **2pq (Aa)** | **q2 (aa)** | **p (A)** | **q (a)** |
| **F5 (HW Theoretical)** | **(0.5)2 = 0.25** | **2(0.5)(0.5) = 0.5** | **(0.5)2 = 0.25** | **0.5** | **0.5** |
| **F5 (Actual)** | **20/30 = 0.67** | **10/30 = 0.33** | **0/30 = 0.0** | **50/60 = 0.83** | **10/60 = 0.17** |